

**ORAL ARGUMENT NOT YET SCHEDULED**

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**No. 15-1127; consolidated with No. 15-1205**

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**UNITED STATES COURT OF APPEALS  
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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EarthReports, Inc. (DBA Patuxent Riverkeeper), Sierra Club, and Chesapeake Climate Action Network,  
*Petitioners,*

v.

Federal Energy Regulatory Commission,  
*Respondent,*

Dominion Cove Point LNG, LP and American Petroleum Institute,  
*Intervenors-Respondents.*

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On Petition for Review of Orders of the Federal Energy Regulatory Commission

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**BRIEF OF AMICI CURIAE, WATERKEEPERS CHESAPEAKE,  
POTOMAC RIVERKEEPER, INC., LOWER SUSQUEHANNA  
RIVERKEEPER, CLEAN AIR COUNCIL, ALLEGHENY DEFENSE  
PROJECT, WILD VIRGINIA, CALVERT CITIZENS FOR A HEALTHY  
COMMUNITY, AND MYERSVILLE CITIZENS FOR A RURAL  
COMMUNITY, INC. IN SUPPORT OF PETITIONERS EARTHREPORTS,  
INC. ET AL**

Dated: November 20, 2015

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**CORPORATE AND FINANCIAL DISCLOSURE STATEMENT  
PURSUANT TO FEDERAL RULES OF APPELLATE PROCEDURE 26.1,  
29(c) AND D.C. CIRCUIT LOCAL RULE 26.1**

*Amici curiae* are all non-profit organizations. No party to this filing has a parent corporation, and no publicly held corporation owns 10% or more of the stock of any of the parties to this filing.

**STATEMENT OF COUNSEL PURSUANT TO  
FEDERAL RULE OF APPELLATE PROCEDURE 29(c)(5)**

Pursuant to Fed. R. App. Proc. 29(c)(5), counsel for *amici curiae* hereby states that: no counsel for any party to this litigation authored this brief in whole or in part; no party or party's counsel contributed money that was intended to fund, or did fund, the preparation or submission of this brief; and no person, other than the *amici curiae*, contributed money that was intended to fund, or did fund, the preparation or submission of this brief.

**STATEMENT OF COUNSEL PURSUANT TO  
FEDERAL RULE OF APPELLATE PROCEDURE 29(a) AND  
D.C. CIRCUIT LOCAL RULE 29(b)**

All parties to this litigation have consented to the participation of *amici curiae* in this matter, and to the filing of this brief.

**CERTIFICATE OF PARTIES, RULINGS UNDER REVIEW, AND  
RELATED CASES**

The parties in this case, rulings under review, and related cases are set forth in the opening brief of Petitioners EarthReports, Inc., *et al.*

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## GLOSSARY

Allegheny National Forest	ANF
Atlantic Coast Pipeline	ACP
Carbon Dioxide	CO <sub>2</sub>
Cove Point LNG export facility	The Project
Environmental Assessment	EA
Environmental Impact Statement	EIS
Environmental Protection Agency	EPA
Federal Energy Regulatory Commission	FERC
Finding of No Significant Impact	FONSI
Greenhouse Gases	GHG
Liquid Natural Gas	LNG
Mountain Valley Pipeline	MVP
National Environmental Policy Act	NEPA
Pennsylvania Department of the Environment	PADEP

**IDENTITY AND INTEREST OF *AMICI CURIAE***

The use of hydraulic fracturing to extract natural gas from shale formations results in widespread degradation of land, water, and air. *Amici*'s members live and work in communities on the front line of the current natural gas production boom in the mid-Atlantic United States. These communities will be the first to feel the negative environmental impacts from increased drilling for natural gas that will result from the decision of the Federal Energy Regulatory Commission ("FERC") to license the Cove Point LNG export facility (the "Project").

*Amici*, non-profit membership organizations that work to protect the health of the ecosystems and communities in the region encompassing the Marcellus and Utica shale plays and the Chesapeake Bay watershed, support petitioners EarthReports, Inc., *et al.*'s challenge to FERC's decision to license the Project out of concern for its significant negative consequences for the environment. *Amici* submit this brief to detail the foreseeable and devastating implications of increased natural gas development induced by the Project that, without action by the Court, will occur in their members' communities without ever receiving the required consideration by FERC.

**SUMMARY OF ARGUMENT**

FERC failed to address the environmental consequences of increased natural gas production in the mid-Atlantic United States both with regard to indirect

impacts from increased natural gas production across the mid-Atlantic region, and with regard to the particular impacts of the Project for the Chesapeake Bay. Part I provides the Court with a resource for understanding the severe environmental consequences that necessarily result from increased natural gas production, as well as the substantial amount of information ignored by FERC regarding the Project's connection to increased drilling in the mid-Atlantic shale plays. Parts II and III put before the Court arguments not made by Petitioners regarding the unique nature of the Chesapeake Bay watershed, and the analysis that FERC should have conducted regarding the Project's cumulative impacts and intensity in light of that region's particular needs.

## **ARGUMENT**

FERC licensed the Project in September 2014, Dominion Cove Point LNG, LP, 148 FERC ¶ 61,244 (Sept. 29, 2014), based in part on the Environmental Assessment ("EA") and Finding of No Significant Impact ("FONSI") it had issued in May 2014. EarthReports, Inc. and others requested a rehearing of that licensing decision because they disagreed with the EA's characterization of impacts arising from the Project. FERC denied that request, Order Denying Rehearing and Stay, 151 FERC ¶ 61,095 (May 4, 2015), and EarthReports *et al.* appealed, asking this Court to examine whether FERC's EA complies with the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321-4370(f).

FERC's EA must satisfy the D.C. Circuit's four-part legal standard:

First, [that] the agency must have accurately identified the relevant environmental concern. Second, once the agency has identified the problem it must have taken a "hard look" at the problem in preparing the EA. Third, if a finding of no significant impact is made, the agency must be able to make a convincing case for its finding. Last, if the agency does find an impact of true significance, preparation of an EIS can be avoided only if the agency finds that the changes or safeguards in the project sufficiently reduce the impact to a minimum.

*Sierra Club v. U.S. Dep't of Transp.*, 753 F.2d 120, 127 (D.C. Cir. 1985); accord

*Grand Canyon Trust v. F.A.A.*, 290 F.3d 339, 340–41 (D.C. Cir. 2002).

FERC's EA violates the "relevant environmental concerns," "hard look," and "convincing case" elements of this test by using an impermissibly narrow geographic scope and ignoring significant Project-related environmental impacts in at least three areas: (1) reasonably foreseeable indirect effects of the export of natural gas; (2) cumulative impacts on water resources; and (3) the context and intensity of an expanded LNG facility sited on the ecologically unique and already impaired Chesapeake Bay.

**I. FERC Impermissibly Failed to Assess Significant Indirect Impacts of the Cove Point Project Resulting from Induced Natural Gas Production.**

An EA must assess reasonably foreseeable environmental effects of the project at issue, including "indirect effects, which are caused by the action and are later in time or farther removed in distance." 40 C.F.R. § 1508.8 (1979). FERC's duty to assess indirect impacts encompasses the impacts of development induced

by the Project. 40 C.F.R. § 1508.8; *Taxpayers of Mich. Against Casinos (TOMAC) v. Norton*, 433 F.3d 852, 858–59 (D.C. Cir. 2006). This duty applies equally to both expanded facilities and new ones. *See Barnes v. U.S. Dep’t of Transp.*, 655 F.3d 1124, 1136–37 (9th Cir. 2011).

The Project is inextricably linked to broader trends in the United States natural gas sector. Advances in hydraulic fracturing technology have created a surge of interest in recovery of natural gas from shale rock formations across the country.<sup>1</sup> Relevant here are the natural gas reserves in the 95,000<sup>2</sup> square mile Marcellus and 170,000<sup>3</sup> square mile Utica shale plays that cover parts of New York, Pennsylvania, West Virginia, Maryland, Virginia, and Ohio. The Project seeks to profit from increases in recoverable domestic natural gas reserves by providing a conduit between domestic natural gas producers in the mid-Atlantic

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<sup>1</sup> See, e.g., Hobart King, *Hydraulic Fracturing of Oil & Gas Wells Drilled in Shale*, GEOLOGY (Nov. 10, 2015), <http://geology.com/articles/hydraulic-fracturing>; see also David Blackmon, *Horizontal Drilling: A Technological Marvel Ignored*, FORBES (Jan. 28, 2013), <http://www.forbes.com/sites/davidblackmon/2013/01/28/horizontal-drilling-a-technological-marvel-ignored>.

<sup>2</sup> See N.Y.C. DEP’T OF ENVTL. PROTECTION, FINAL IMPACT ASSESSMENT REPORT: IMPACT ASSESSMENT OF NATURAL GAS PRODUCTION IN THE NEW YORK CITY WATER SUPPLY WATERSHED ES-1 (2009), available at [http://www.nyc.gov/html/dep/pdf/natural\\_gas\\_drilling/12\\_23\\_2009\\_final\\_assessment\\_report.pdf](http://www.nyc.gov/html/dep/pdf/natural_gas_drilling/12_23_2009_final_assessment_report.pdf)

<sup>3</sup> Ryan Dezember, *Utica Shale Energizes Deal Frenzy in Ohio*, WALL ST. J. (Sep. 27, 2011), <http://www.wsj.com/articles/SB10001424052970204010604576592783750697202>

region and foreign markets,<sup>4</sup> where prices for natural gas exceed those in the U.S. Currently low domestic prices have led producers to delay exploiting wells that have been drilled until access to higher prices becomes available.<sup>5</sup> By opening an export market for liquid natural gas (“LNG”), the Project will result in increased drilling for natural gas in the Marcellus and Utica shale plays.

Investment advisors made the connection between the Project and drilling in the Marcellus and Utica shale plays both before and after FERC’s September 2014

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<sup>4</sup> See, e.g., *Cabot to Supply Gas to Dominion Cove Point LNG Terminal*, LNG WORLD NEWS (Dec. 19, 2013), <http://www.lngworldnews.com/cabot-to-supply-gas-to-dominion-cove-point-lng-terminal/> (quoting Cabot’s CEO: “This long-term firm sales agreement . . . ensures the continuing development of our Marcellus Shale position in Northeast Pennsylvania for years to come.”); see also PTI, *GAIL India Inks Agreement to Buy 2.5 Million Tonnes of LNG from US-based Firm*, ECON. TIMES (Dec. 5, 2014), <http://economictimes.indiatimes.com/industry/energy/oil-gas/gail-india-inks-agreement-to-buy-2-5-million-tonnes-of-lng-from-us-based-firm/articleshow/45383664.cms>; Sam Kusic, *Region’s Shale Gas Will Help Fuel India*, PITTSBURGH BUS. TIMES (Dec. 5, 2014), <http://www.bizjournals.com/pittsburgh/blog/energy/2014/12/regions-shale-gas-will-help-fuel-india.html>.

<sup>5</sup> See Elliot Gue, *Lower For Longer: Why You Should Stand Aside On U.S. Oil Producers*, SEEKING ALPHA (May 19, 2015), <http://seekingalpha.com/article/3196776-lower-for-longer-why-you-should-stand-aside-on-u-s-oil-producers>; Lyn Doan & Dan Murtaugh, *U.S. Shale Fracklog Triples As Drillers Keep Oil from Market*, BLOOMBERG BUS. (Apr. 23, 2015), <http://www.bloomberg.com/news/articles/2015-04-23/u-s-shale-fracklog-triples-as-drillers-keep-oil-out-of-market-i8u004xl>; *Antero delays Marcellus well completions, stays highly hedged*, UNCONVENTIONAL OIL & GAS REP. (Apr. 1, 2015), <http://www.ogj.com/articles/uogr/print/volume-3/issue-2/antero-delays-marcellus-well-completions-stays-highly-hedged.html>.

approval.<sup>6</sup> The link between the Project and the mid-Atlantic shale plays has also been demonstrated through a number of studies and models developed specifically to anticipate relationships between natural gas production, infrastructure, and pricing.<sup>7</sup> For instance, the United States Energy Information Administration concluded in 2012 that for any increase in demand for natural gas exports from the United States, approximately 60 to 70 percent of exported gas would be supplied by increased domestic natural gas production.<sup>8</sup> Dominion Cove Point, LLC also relied on modeling of the impacts for the United States gas market from exports at the Cove Point facility to support aspects of its application for the Project.<sup>9</sup> And in a study by Deloitte MarketPoint LLC to “provide an independent and objective

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<sup>6</sup> See, e.g., Tyler Laundon, *This Natural Gas Producer Will Power Pipeline Dividends*, WYATT INVESTMENT RESEARCH (Mar. 4, 2014), [www.wyattresearch.com/article/natural-gas-producer/](http://www.wyattresearch.com/article/natural-gas-producer/) (citing to Cabot’s rapid production growth due in part to increasing takeaway capacity of Marcellus Shale via Cove Point, as a reason to invest in Cabot despite unimpressive dividends); see also Casey Hoerth, *It’s Time To Consider Cabot Oil And Gas Corporation*, SEEKING ALPHA (Sep. 29, 2014), <http://seekingalpha.com/article/2528685-its-time-to-consider-cabot-oil-and-gas-corporation> (“Even more exciting [than news of domestic pipeline construction] is the Cove Point LNG facility[,] which will . . . provide Cabot at least some access to demand markets in South America and East Asia . . . .”).

<sup>7</sup> See *Methodology Guide: M2MS – Gas Methodology*, PLATTS, McGRAW HILL FINANCIAL 3 (Mar. 2015), <http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/M2MS-gas.pdf>.

<sup>8</sup> See UNITED STATES ENERGY INFORMATION ADMINISTRATION, *Effect of Increased Natural Gas Exports on Domestic Energy Markets* (Jan. 2012), at 6, available at [http://energy.gov/sites/prod/files/2013/04/f0/fe\\_eia\\_lng.pdf](http://energy.gov/sites/prod/files/2013/04/f0/fe_eia_lng.pdf).

<sup>9</sup> See Energy: Insight Delivered, NAVIGANT (2011), [http://media.navigant.com/energy/NatGasLNGAdvServ\\_US\\_EG.pdf](http://media.navigant.com/energy/NatGasLNGAdvServ_US_EG.pdf).

assessment of the potential economic impacts of LNG exports from the United States,” Deloitte made detailed projections as to how much LNG exports could increase domestic prices and affect production and flows in a variety of scenarios.<sup>10</sup>

Together with that modeling, FERC had “sufficient data . . . from shale gas plays that have been under development in other areas over the last two to ten years to develop reasonable ranges of annual rates of well construction.”<sup>11</sup> The Pennsylvania Department of the Environment (“PADEP”) reports information regarding natural gas wells drilled in that state since at least 2009, including the numbers of wells drilled specifically in the Marcellus Shale, and environmental impacts.<sup>12</sup> New York City, in assessing the potential impacts of hydraulic fracturing, was able to rely on data from PADEP and other states to make specific predictions about likely well site density and impacts in that state under a range of

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<sup>10</sup> DELOITTE CENTER FOR ENERGY SOLUTIONS, MADE IN AMERICA: THE ECONOMIC IMPACT OF LNG EXPORTS FROM THE UNITED STATES, 1-2 (2011) <http://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-made-in-america.pdf>.

<sup>11</sup> N.Y.C. DEP’T OF ENVTL. PROTECTION, *supra* note 2, at 21.

<sup>12</sup> See, e.g., PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, Oil and Gas Reports, <http://www.dep.pa.gov/DataandTools/Reports/Pages/Oil-and-Gas.aspx#.Vktp49KrRaR> (last visited Nov. 18, 2015) (linking to information regarding monthly and yearly permits by well type and production data); PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, Department of Oil and Gas Management, *Formations*, available at [http://www.depreportingservices.state.pa.us/ReportServer/Pages/ReportViewer.aspx?/Oil\\_Gas/OG\\_Well\\_Formations](http://www.depreportingservices.state.pa.us/ReportServer/Pages/ReportViewer.aspx?/Oil_Gas/OG_Well_Formations) (last visited Nov. 18, 2015) (providing search capability for wells by shale formation).

scenarios.<sup>13</sup> All of the above sources would have enabled FERC to make reasonable predictions about the impacts of the Project for increased natural gas development in the region.

This development will necessarily harm the environment. To extract gas from the Marcellus and Utica Shales via hydraulic fracturing, producers must first drill vertical wells into shale formations, and extend those wells laterally through the shale. A solution of water and hazardous chemicals pumped at high pressure into the geologic formation is then used to fracture the shale and release the stored gas.<sup>14</sup> A network of pipelines extends from each well site to carry the gas to compressor stations and processing facilities. The well-established—and reasonably foreseeable—impacts of this process include: (1) habitat fragmentation and destruction; (2) degradation of local surface and ground waters; (3) increased erosion and sedimentation of headwaters and other water bodies; (4) conventional air pollutants; and (5) substantial emissions of methane and other GHGs.<sup>15</sup> FERC's

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<sup>13</sup> N.Y.C. DEP'T OF ENVTL. PROTECTION, *supra* note 2, at 21-25.

<sup>14</sup> See *Hydraulic Fracturing Background Information*, ENVTL. PROT. AGENCY (May 9, 2012), [http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells\\_hydrowhat.cfm](http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_hydrowhat.cfm).

<sup>15</sup> See, e.g., L.E. MILHEIM ET AL., U.S. GEOLOGICAL SURVEY OPEN FILE REPORT 2014-1152, LANDSCAPE CONSEQUENCES OF NATURAL GAS EXTRACTION IN CAMERON, CLARION, ELK, FOREST, JEFFERSON, MCKEAN, POTTER, AND WARREN COUNTIES, PENNSYLVANIA, 2004–2010 (2014), available at <http://pubs.usgs.gov/of/2014/1152/pdf/of2014-1152.pdf>; *Remote Water Quality Monitoring Network: Overview*, SUSQUEHANNA RIVER BASIN COMM'M,

EA was required to reflect the full impacts of natural gas production induced by the Project, as outlined in greater detail below.

**A. Natural gas production destroys and fragments landscapes and wildlife habitats.**

Well completion induced by the Project will destroy and fragment landscape across the mid-Atlantic United States. To develop each natural gas well, seven to nine acres of land must first be cleared and graded for construction of the well pad, water and wastewater storage area, access road, and utility corridor.<sup>16</sup> Although well sites may be partially restored once drilling activities are completed, one to three acres of land needed for maintenance access, water storage, and gas production equipment will remain disrupted throughout the productive lifespan of

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<http://mdw.srbc.net/remotewaterquality/> (last visited Nov. 16, 2015) (providing real-time data on water quality proximate to Marcellus fracking operations); DONALD MILTON ET AL., MARYLAND INSTITUTE FOR APPLIED ENVIRONMENTAL HEALTH, POTENTIAL PUBLIC HEALTH IMPACTS OF NATURAL GAS DEVELOPMENT AND PRODUCTION IN THE MARCELLUS SHALE IN WESTERN MARYLAND 15-82 (July 2014), *available at*

<http://msa.maryland.gov/megafile/msa/speccol/sc5300/sc5339/000113/020000/020470/unrestricted/20141565e.pdf> (discussing impacts related to fracking and citing dozens of studies of impacts local to Pennsylvania and Maryland); *see also* N.Y. STATE DEP'T OF ENVTL. CONSERVATION, FINAL SUPPLEMENTAL GENERIC EIS ON THE OIL, GAS AND SOLUTION MINING REGULATORY PROGRAM, Ch. VI (May 2015), *available at* <http://www.dec.ny.gov/energy/75370.html>.

<sup>16</sup> N.Y.C. DEP'T OF ENVTL. PROTECTION, *supra* note 2, at 5-6, 32; N.Y. STATE DEP'T OF ENVTL. CONSERVATION, *supra* note 15, at Ch VI, 80; THE NATURE CONSERVANCY, PENNSYLVANIA ENERGY IMPACTS ASSESSMENT, REPORT 1: MARCELLUS SHALE NATURAL GAS AND WIND 10 (Nov. 15, 2010), [http://www.nature.org/media/pa/pa\\_energy\\_assessment\\_report.pdf](http://www.nature.org/media/pa/pa_energy_assessment_report.pdf).

the well.<sup>17</sup> Pipelines must also be constructed to connect each individual site to the larger network. The Project, for instance, will depend on a network of pipelines to convey natural gas from sites across the mid-Atlantic region to the Cove Point facility in Calvert County, Maryland.

Even prior to the market access made possible by the Project, members of *amicus* Lower Susquehanna Riverkeeper observed the development of hundreds of well sites in Pennsylvania. That observed activity was only a fraction of the nearly 10,000 wells drilled in Pennsylvania from 2004 to March 2015.<sup>18</sup> Thousands more sites have been proposed, and will be initiated there and in other states in response to the opening of an export market for natural gas. Using conservative estimates, the Project will result in development of hundreds of thousands of acres of land for wells throughout the shale region.<sup>19</sup>

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<sup>17</sup> N.Y.C. DEP'T OF ENVTL. PROTECTION, *supra* note 2, at 32.

<sup>18</sup> See PENN STATE MARCELLUS CENTER FOR OUTREACH AND RESEARCH, "Pennsylvania Watersheds & Shale Development Activity," <http://marcellus.psu.edu/images/PA%20Spud%20Map%202014-15%2020150331.jpg> (last visited November 19, 2015).

<sup>19</sup> In Pennsylvania alone, an estimated two-thirds of well pads targeting the Marcellus Shale will be developed in forested areas, necessitating the clearing of 34,000 to 83,000 acres, and an additional 80,000 to 200,000 acres of forest land for pipeline construction and right-of-way maintenance. THE NATURE CONSERVANCY, *supra* note 16, at 6; see also Jeffrey S. Evans & Joseph M. Kiesecker, *Shale Gas, Wind and Water: Assessing the Potential Cumulative Impacts of Energy Development on Ecosystem Services within the Marcellus Play*, PLOS Vol. 9, Issue 2, at 7, available at <http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pone.0089210&representation=PDF> (noting projections of 40,000 new natural gas

Consumption of land by natural gas well sites results in habitat reduction, deforestation, and increased erosion, sedimentation, and runoff. At the most basic level, the physical footprint of each well site reduces available land for wildlife. But the impacts of these sites for habitat go beyond their physical location. Land adjacent to well sites is also disturbed, particularly in forest settings, where clear cutting “fragment[s] contiguous forest patches, create[s] new edges, and change[s] habitat conditions for sensitive wildlife and plant species.”<sup>20</sup> These harms are expanded further by the scattered nature of the well sites and the roads and pipelines necessary to connect them to one another. The large infrastructure network causes loss of habitat at a regional level by breaking contiguous land into smaller patches that may no longer be of viable size for a given species population. This kind of destruction and fragmentation is one of the most pervasive threats to species survival.<sup>21</sup> Loss of forest cover also worsens water quality by increasing runoff of pollutants and contributing to sedimentation and erosion.<sup>22</sup>

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wells drilled in West Virginia by 2030, and over 25,000 new wells drilled in Pennsylvania by 2020).

<sup>20</sup> *Id.* at 10.

<sup>21</sup> EPA, OUR BUILT AND NATURAL ENVIRONMENTS: A TECHNICAL REVIEW OF THE INTERACTIONS AMONG LAND USE, TRANSPORTATION, AND ENVIRONMENTAL QUALITY 35 (2nd ed. 2013) (noting that “[h]abitat destruction and degradation contributes to the endangerment of more than 85 percent of the species listed or formally proposed for listing under the federal Endangered Species Act”).

<sup>22</sup> *E.g.*, JOHN K. JACKSON & BERNARD W. SWEENEY, STROUD WATER RESEARCH CENTER, EXPERT REPORT ON THE RELATIONSHIP BETWEEN LAND USE AND STREAM CONDITION (AS MEASURED BY WATER CHEMISTRY AND AQUATIC

Increased natural gas production has already resulted in significant environmental impacts in the region. As noted, *amicus* Lower Susquehanna Riverkeeper's members have witnessed the construction of hundreds of miles of new pipelines to accommodate increased supply since the onset of natural gas development in Pennsylvania in 2010. Many of these pipelines have been built through ecologically sensitive areas like wetlands, floodplains, and forestland. Natural gas drilling and support infrastructure are fundamentally altering Pennsylvania's landscape with new roads, well sites, wastewater disposal pits, pipelines, and other infrastructure, all of which is contributing to erosion, sedimentation, pollution, fragmentation of forests, wetlands, and stream beds, habitat disruption, and local water quality impacts.<sup>23</sup>

With the expansion of the LNG export market, such induced impacts will blanket the land that sits atop and around the Marcellus and Utica shale plays. For example, *amicus* Allegheny Defense Project is dedicated to the protection and restoration of Pennsylvania's Allegheny National Forest ("ANF"). Its members

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MACROINVERTEBRATES) IN THE DELAWARE RIVER BASIN (Nov. 22, 2010), <http://www.state.nj.us/drbc/library/documents/Sweeney-Jackson.pdf>; *see also* MILHEIM, *supra* note 15, at 8

<sup>23</sup> *See generally* MILHEIM, *supra* note 15 (detailing impacts from increased natural gas development in eight counties of Pennsylvania, including increased forest fragmentation, loss of land cover, and decline in forest area); *see also* THE NATURE CONSERVANCY, *supra* note 16, at 18-24 (projecting likely impacts from loss of land to natural gas development for forest habitats, freshwater habitats, and species of conservation concern).

anticipate environmentally harmful drilling activities to be initiated in and around the ANF, Pennsylvania's only national forest, as a consequence of the export market provided by the Project. Similarly, *amicus* Wild Virginia's members predict harmful impacts from the Project to the remaining wild places in Virginia's George Washington and Jefferson National Forests. These National Forests lie directly between Marcellus Shale fields in West Virginia and the Project site. The Cove Point LNG facility will be served partially by the Transco Natural Gas Pipeline that runs north and south across eastern Virginia. Two pipelines are planned for service in 2017 to add increased capacity to the Transco Line, the Atlantic Coast Pipeline ("ACP") and the Mountain Valley Pipeline ("MVP"). The ACP and MVP will cross over 15 miles of the National Forests, as well as over 18 miles of the Monongahela National Forest in West Virginia.<sup>24</sup> These pipelines will fragment habitat and the landscape, and cause irreparable damage to the ecosystem in the National Forests. The same kinds of harms can be expected throughout the mid-Atlantic United States.

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<sup>24</sup> See NATURAL RESOURCE GROUP, ATLANTIC COAST PIPELINE, LLC AND DOMINION TRANSMISSION, INC., RESOURCE REPORT 3, Fish, Wildlife, and Vegetation 3-58, 3-61 (September 2015), *available at* <https://www.dom.com/library/domcom/pdfs/gas-transmission/atlantic-coast-pipeline/ferc-filing0915/rr3-fish-wildlife-veg.pdf?la=en>; MOUNTAIN VALLEY PIPELINE, RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION 1-66 (October 2015), *available at* <http://mountainvalleypipeline.info/wp-content/uploads/2015/10/Resource-Report-1.pdf>.

**B. Natural gas production constitutes a drain on groundwater resources and poses serious risk of surface water and groundwater contamination.**

Each stage of the natural gas development process also poses a threat to water quality and availability. As noted, these impacts generally begin with well site construction activities that result in erosion and sedimentation that degrade the health of water bodies.<sup>25</sup> For example, within the Potomac River watershed, *amicus* Potomac Riverkeeper, Inc. anticipates that impacts of the Project will include harm to surface water streams from sedimentation, as well as pollution from stormwater runoff and other construction related activities.

Once wells are drilled, hydraulic fracturing relies on the injection of large quantities of water into shale formations to break apart the rock and release natural gas. In general, 80 to 90 percent of the total water used for a well is withdrawn from fresh water sources, with the remaining 10 to 20 percent coming from reused water at the well site.<sup>26</sup> As an example of the volume of water required, between July 2008 and February 2011, average water usage for high-volume hydraulic fracturing within the Susquehanna River Basin in Pennsylvania was 4.2 million

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<sup>25</sup> U.S. DEP'T OF ENERGY, ADDENDUM TO ENVIRONMENTAL REVIEW DOCUMENTS CONCERNING EXPORTS OF NATURAL GAS FROM THE UNITED STATES 13 (May 29, 2014), *available at* [http://energy.gov/sites/prod/files/2014/05/f16/Addendum\\_0.pdf](http://energy.gov/sites/prod/files/2014/05/f16/Addendum_0.pdf).

<sup>26</sup> N.Y. STATE DEP'T OF ENVTL. CONSERVATION, *supra* note 16, at Ch. VI, 10.

gallons—approximately 3.6 million gallons of fresh water—per well.<sup>27</sup> The wells completed in response to the Project will require the extraction of billions of gallons of fresh water across the mid-Atlantic. High volume water removals alter the aquatic habitat by affecting, among other things, flow and velocity of groundwater, water temperature, and chemical composition of surface and ground water.<sup>28</sup> These alterations of surface and ground water in turn have consequences for aquatic populations, including stream fish distribution, community structure, and population dynamics, and alteration of the needed environment for aquatic biota and vegetation.<sup>29</sup>

Because hydraulic fracturing is a consumptive practice that returns little water to the hydrological cycle, water withdrawals also present a serious risk of aquifer depletion where water is pumped out of an aquifer in excess of the rate of recharge.<sup>30</sup> Already, a number of streams in Washington County in southwestern Pennsylvania have reportedly been nearly drained or pumped dry from excessive withdrawals from Marcellus wells.<sup>31</sup>

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<sup>27</sup> *Id.*

<sup>28</sup> *Id.* at Ch. VI, 2-5.

<sup>29</sup> *Id.* at Ch. VI, 3.

<sup>30</sup> *Id.* at Ch. VI, 5.

<sup>31</sup> N.Y.C. DEP'T OF ENVTL. PROTECTION, *supra* note 2, at 34.

Following extraction, the water is mixed with chemicals used to control fluid properties during the hydraulic fracturing process.<sup>32</sup> The U.S. Department of Energy lists the following “representative chemicals” typically injected into water to create fracturing fluid: hydrochloric or muriatic acid, polyacrylamide or mineral oil, isopropanol, potassium chloride, guar gum or hydroxyethyl cellulose, ethylene glycol, sodium or potassium bicarbonate, ammonium persulfate, borate salts, citric acid, n-dimethyl formamide, gluteraldehyde, ammonium bisulfate, choline chloride or sodium chloride, and silica or quartz.<sup>33</sup> The mere presence of these chemicals at well sites in forest and wetland areas poses risks of surface water pollution through spills during transport, improper storage, accidents, and numerous other scenarios.

Fracturing fluid also poses a risk of groundwater pollution both during and after use. Up to 90 percent of the fluid injected into shale formations remains in the Earth’s subsurface at the end of the drilling process.<sup>34</sup> This trapped chemical mixture presents a risk of contamination via migration into the water supply.<sup>35</sup> The fracturing fluid that returns to the surface after drilling (“flowback”<sup>36</sup>) contains the chemicals initially injected as part of the fracturing fluid, as well as elevated levels of total dissolved solids, salts, metals, organics, and naturally occurring radioactive

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<sup>32</sup> *Id.*

<sup>33</sup> U.S. DEP’T OF ENERGY, *supra* note 25, at 14-15.

<sup>34</sup> N.Y.C. DEP’T OF ENVTL. PROTECTION, *supra* note 2, at 35.

<sup>35</sup> *Id.* at 50.

<sup>36</sup> ENVTL. PROT. AGENCY, *supra* note 14.

materials released during the fracturing process.<sup>37</sup> Water naturally occurring in the shale formation that rises to the surface in a natural gas well (“produced waters”) also carries these pollutants. Both flowback and produced waters are generally stored at the well site in open pits or storage tanks.<sup>38</sup> Improper storage, failures during transport, mechanical failures, blow-outs, accidents, human error, and many other scenarios all pose a risk of introduction of hazardous chemicals into surface waters.<sup>39</sup>

All of these impacts are especially problematic for the already-compromised water bodies of the mid-Atlantic region. *Amicus* Waterkeepers Chesapeake’s members work within the 64,000 square mile Chesapeake Bay region that covers five states and the District of Columbia. Across that area, the onset of natural gas development promises to undo decades of slow progress toward a cleaner Chesapeake Bay. Drilling infrastructure will cause billions of gallons of wastewater to be discharged into the Bay watershed each year, irreparably damaging aquatic life in the bay and its tributaries. In this way, approval of the Project, and the attendant rise of natural gas drilling in and around the Marcellus and Utica Shales, have very significant consequences for the Chesapeake Bay ecosystem and the surrounding communities.

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<sup>37</sup> U.S. DEP’T OF ENERGY, *supra* note 25, at 18.

<sup>38</sup> *Id.*

<sup>39</sup> See, e.g., *id.* at 18-19; N.Y.C. DEP’T OF ENVTL. PROTECTION, *supra* note 2, at 35.

**C. Natural gas production is a major source of regional air pollution and contributions to climate change.**

Natural gas production in the Marcellus and Utica shale plays will increase emissions of conventional air pollutants,<sup>40</sup> methane and other greenhouse gases (GHG), and releases of volatile organic compounds and nitrogen dioxide<sup>41</sup> across the mid-Atlantic. These impacts are again particularly problematic for the already-compromised environment of the Chesapeake Bay region.<sup>42</sup>

Average GHG emissions from the extraction, transport, and ultimate combustion of natural gas—"lifecycle emissions"—are well established.<sup>43</sup>

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<sup>40</sup> See N.Y. STATE DEP'T OF ENVTL. CONSERVATION, *supra* note 16, at Ch. VI, 159; U.S. DEP'T OF ENERGY, *supra* note 25, at 37.

<sup>41</sup> See, e.g., Jeff Peischl et al., *Quantifying Atmospheric Methane Emissions from the Haynesville, Fayetteville, and Northeastern Marcellus Shale Gas Producing Regions*, 120 J. GEOPHYSICAL RESEARCH: ATMOSPHERES 2119, 2137 fig.12 (2015), <http://onlinelibrary.wiley.com/doi/10.1002/2014JD022697/full>; Leslie S. Abrahams et al., *Life Cycle Greenhouse Gas Emissions from U.S. Liquefied Natural Gas Exports: Implications for End Uses*, 49 ENVTL. SCI. TECH. 3237, 3239-40 (2015), <http://pubs.acs.org/doi/pdf/10.1021/es505617p> (reporting estimated contributions of various stages of gas extraction, transport, and combustion to emissions' global warming potential).

<sup>42</sup> See *Air Pollution in the Chesapeake Bay Watershed*, ENVTL. PROT. AGENCY (Oct. 9, 2015), <http://www2.epa.gov/chesapeake-bay-tmdl/air-pollution-chesapeake-bay-watershed> (noting that "[a]ir sources contribute about one-third of the total nitrogen loads to the Chesapeake Bay by depositing onto the tidal surface waters of the Bay and Bay watershed.").

<sup>43</sup> TIMOTHY J. SKONE ET AL., DEPT. OF ENERGY DOE/NETL-2014/1649, LIFE CYCLE GREENHOUSE GAS PERSPECTIVE ON EXPORTING LIQUEFIED NATURAL GAS FROM THE UNITED STATES 10 (2014); see also Adam R. Brandt et al., *Methane Leaks from North American Natural Gas Systems*, 343 SCIENCE 733 (2014), available at <http://www.novim.org/images/pdf/ScienceMethane.02.14.14.pdf>; Robert W. Howarth, *A bridge to nowhere: methane emissions and the greenhouse*

Methane in particular, the main component of natural gas, has significantly greater global warming potential than carbon dioxide (“CO<sub>2</sub>”), both over the short- and long-term.<sup>44</sup> Methane is released during fracking either through venting directly into the atmosphere or by escaping from wells and related infrastructure. According to EPA, natural gas is the “single largest contributor to United States anthropogenic methane emissions.”<sup>45</sup> As of 2011, the industry was responsible for over 40% of total U.S. methane emissions, amounting to 5% of all CO<sub>2</sub> equivalent emissions in the country.<sup>46</sup> *Amicus* Clean Air Council, which works to combat air pollution in the mid-Atlantic, anticipates that the cumulative impacts of increased natural gas drilling due to the Project will undermine the region’s ongoing efforts to reduce GHG. These impacts, ignored by FERC during its approval of the Project, come at a time when global temperature has increased by nearly one degree Celsius over pre-industrial temperatures<sup>47</sup> and fly in the face of President

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*gas footprint of natural gas*, 2 ENERGY SCI. & ENG. 5 (2014), [http://www.eeb.cornell.edu/howarth/publications/Howarth\\_2014\\_ESE\\_methane\\_emissions.pdf](http://www.eeb.cornell.edu/howarth/publications/Howarth_2014_ESE_methane_emissions.pdf).

<sup>44</sup> See Brandt, *supra* note 43.

<sup>45</sup> EPA, Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews, 76 Fed. Reg. 52,738, 52,792 (Aug. 23, 2011).

<sup>46</sup> *Id.*

<sup>47</sup> See National Air and Space Administration, *Global Climate Change: Vital Signs of the Planet*, “Global Temperature,” <http://climate.nasa.gov/vital-signs/global-temperature/> (reporting a 0.75 degree Celsius increase in global surface temperature as of 2014).

Obama's commitment to reduce United States GHG emissions 26 to 28 percent below 2005 levels by 2025.<sup>48</sup>

Emissions from natural gas production also contribute to the formation of ground-level ozone, and reduce local and regional air quality. Areas of major natural gas development activities have already been linked to nonattainment of National Ambient Air Quality Standards for ground-level ozone.<sup>49</sup> Ozone also has local health impacts, including chest pain, coughing, throat irritation, congestion, worsening of bronchitis, emphysema and asthma, reduction in lung function and inflammation, and the possibility of permanent scarring of the lungs.<sup>50</sup> Members of *amici* Calvert Citizens for a Healthy Community and Myersville Citizens for a Rural Community, Inc. anticipate that the Cove Point LNG facility and the drilling that it induces will lead to dangerous air quality for their families and community members who live near the facility.

**D. FERC's baseless refusal to consider the foreseeable environmental impacts of the Project in the EA violates NEPA.**

As noted, FERC had ample information available to it that would have allowed it to make reasonable estimates about the connection between the Project

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<sup>48</sup> David Nakamura and Steven Mufson, *China, U.S. agree to limit greenhouse gases*, THE WASH. POST (Nov. 12, 2014), [https://www.washingtonpost.com/business/economy/china-us-agree-to-limit-greenhouse-gases/2014/11/11/9c768504-69e6-11e4-9fb4-a622dae742a2\\_story.html](https://www.washingtonpost.com/business/economy/china-us-agree-to-limit-greenhouse-gases/2014/11/11/9c768504-69e6-11e4-9fb4-a622dae742a2_story.html).

<sup>49</sup> U.S. DEP'T OF ENERGY, *supra* n. 25, at 27-28.

<sup>50</sup> *Id.* at 31.

and the mid-Atlantic shale plays. FERC was therefore required to assess the aforementioned environmental consequences of the Project in its EA. Instead, to avoid discussion of those impacts, FERC attempted to distance the Project from the mid-Atlantic gas fields in three problematic ways.

First, according to FERC, the Project might not cause new well development and gas production in the Marcellus, in part because the Project can draw on other sources.<sup>51</sup> This amounts to a presumption that construction and operation of the Cove Point facility will not materially affect drilling and extraction in the Marcellus and Utica shale plays. EPA found this presumption doubtful,<sup>52</sup> and rightly so given that it ignores the contracts linking Marcellus drilling leases to the Project and rejects investors' understanding of their relationship.

Further, FERC itself rejected this possibility in the EA. The EA describes the "Project Purpose and Need" as providing interconnects that, according to Dominion, "would allow feed gas for the Project to be sourced from a wide variety of regions in the U.S. depending on market forces and circumstances at any given time."<sup>53</sup> On that basis, the EA's Executive Summary asserts that any assessment of specific impacts from increased natural gas production would be "speculative"

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<sup>51</sup> Environmental Assessment for the Cove Point Liquefaction Project (May 15, 2014) ("EA"), at 163.

<sup>52</sup> EPA, Comments RE: Environmental Assessment for the Cove Point Liquefaction Project, May 2014 2-3 (June 16, 2014), FERC Docket No. CP13-113-000.

<sup>53</sup> EA, *supra* note 51, at 18.

because the “timing, location, and number of additional production wells” are uncertain.<sup>54</sup>

In the EA’s consideration of alternatives, however, FERC relied on a statement from Dominion that it “presumes that the Project customers selected [Dominion’s] facility as their location for export due to its proximity to natural gas supplies in the northeastern United States.”<sup>55</sup> Based on that presumption, FERC refused to consider LNG terminals located other than on the East Coast of the United States to be viable alternatives on the ground that it was “not reasonable to consider that the Project customers would transport natural gas sourced in the northeastern U.S. to facilities on the Gulf Coast or West Coast of the United States for overseas exports[.]”<sup>56</sup>

Under FERC’s logic, Dominion’s customers selected the Project because of its proximity to the Marcellus and Utica Shales, and no reasonable geographic alternatives exist. But, according to FERC, because no one can predict precisely what gas will flow to the Project, FERC need not consider in its EA the impacts of hydraulic fracturing in the Marcellus and Utica shale plays. Such logical inconsistencies cannot be used to evade FERC’s obligations under NEPA. Although FERC’s licensing of the Project will not cause *all* subsequent Marcellus

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<sup>54</sup> *Id.* at 25.

<sup>55</sup> *Id.* at 176.

<sup>56</sup> *Id.* at 176.

and Utica shale gas development and production, FERC remains responsible for assessing environmental impacts arising from what is reasonably attributable to the Project. *See TOMAC*, 433 F.3d at 858–59 (approving analysis of economic and infrastructure growth expected to result from proposed action); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003).

FERC also states that because “Project customers would be responsible for procuring their own gas supplies,” those customers—and not FERC—will determine where the gas that flows through Cove Point is sourced.<sup>57</sup> This statement is misleading insofar as it implies that private contracts, and not FERC’s licensing decision, constitute the proximate cause of indirect environmental impacts.

FERC’s approval of the Project is *the* prerequisite legal and practical step toward gas procurement for export via Cove Point.<sup>58</sup> The contracts that link the Project to specific assets in the Marcellus do not interrupt the causal relationship between the Project and its indirect impacts, but rather identify where those impacts will occur.

Finally, FERC’s EA also inaccurately declares that “specific details, including the timing, location, and number of additional production wells that may or may not be drilled, are speculative.”<sup>59</sup> This argument was rejected in *Mid States*. It is further belied by the wells in the Marcellus region that await completion and

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<sup>57</sup> *Id.* at 18.

<sup>58</sup> *See Order Granting Section 3 and Section 7 Authorizations*, 148 FERC ¶ 61,244, at 11–13 (Sep. 29, 2014).

<sup>59</sup> EA, *supra* note 51, at 25.

the contracts between Dominion Cove Point's customers and natural gas producers, which demonstrate that gas is coming to the Cove Point facility from nearby shale plays. That argument is also at odds with publicly available, high quality data that would have given FERC an understanding of both the connection between the Project and increased natural gas production and the local environmental impacts from natural gas drilling in the Marcellus region.<sup>60</sup> Even if FERC did not have the ability to predict with precision the environmental effects of induced Marcellus production, it still has a duty to gather and examine available information, and to account for the limits or constraints that make that information insufficient for the purpose of assessing indirect impacts. 40 C.F.R. § 1502.22(b); *Barnes v. U.S. Dep't of Transp.*, 655 F.3d at 1136.

## **II. FERC's EA Inadequately Analyzed the Cumulative Impacts of Sedimentation on Regional Waters.**

FERC's EA also gives impermissibly short shrift to the cumulative impacts arising from the Project and other regional activities, as well as to the context in which they arose and their intensity. *See* 40 C.F.R. §§ 1508.27(b)(7), 1508.7. FERC's EA fails the D.C. Circuit test for determining whether an agency performed a valid cumulative impacts analysis for two reasons. *See Grand Canyon*

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<sup>60</sup> *See, e.g.*, MILHEIM, *supra* note 15, at 1; SUSQUEHANNA, *supra* note 15 (providing real-time data on water quality proximate to Marcellus fracking operations); MILTON, *supra* note 15, at 15-82 (discussing impacts related to fracking and citing dozens of studies of impacts local to Pennsylvania and Maryland); *see also* N.Y. STATE DEP'T OF ENVTL. CONSERVATION, *supra* note 16, at Ch. VI.

*Trust v. F.A.A.*, 290 F.3d 339, 345 (D.C. Cir. 2002). FERC (1) unreasonably limited the geographic scope in which it identified the Project’s impacts on water resources; and (2) did not accurately characterize the regulatory context in which cumulative water impacts are expected to occur.

The waters of the Utica and Marcellus Shale region and the Chesapeake Bay watershed comprise the “appropriate scale” of analysis for cumulative impacts on affected water resources.<sup>61</sup> The EA implicitly recognizes this in its “Waterbodies and Wetlands” subsection, where it discusses “other projects located within the same watershed as the proposed Project[,]” including one affecting the Patuxent River,<sup>62</sup> a tributary of the Chesapeake Bay. But FERC failed to accurately characterize erosion and sedimentation impacts on water resources arising from natural gas production and infrastructure development within the affected area. *See Grand Canyon Trust*, 290 F.3d at 346 (finding the FAA’s EA insufficient where, in considering the noise impacts of flights over a park, it considered increased flights only in isolation, and did not address the accumulated, total, or incremental impacts of the overflights when combined with other noise affecting the park).

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<sup>61</sup> *See C.E.Q., CONSIDERING CUMULATIVE EFFECTS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT 12-13 (1997).*

<sup>62</sup> EA, *supra* note 51, at 49, 164 (“LNG Terminal is within . . . the ‘02-13-10 West Chesapeake Bay Area’”); UNIVERSITY OF MARYLAND, MARYLAND’S 10 TRIBUTARY STRATEGY BOUNDARIES & 18 MAJOR WATERSHEDS 1, [http://extension.umd.edu/sites/default/files/\\_docs/programs/anmp/watershed\\_maps.pdf](http://extension.umd.edu/sites/default/files/_docs/programs/anmp/watershed_maps.pdf) (last visited Nov. 16, 2015) (Patuxent River area designated 02-13-11).

In particular, federal and state authorities recognize the relationship between sedimentation and the poor health of numerous waterways in western and central Pennsylvania as well as the Chesapeake Bay—impairments made worse by past and current natural gas production activities in the Marcellus Shale.<sup>63</sup> FERC failed to consider this region’s impaired status and the predictable, additional sedimentation impacts that will result from the Project. As a result, its EA fails to accurately characterize the context and impacts of the Project. *See* 40 C.F.R. § 1508.27(a) (requiring that a NEPA analysis analyze the significance of an action in the context of the affected region, which depends upon the effects in the locale rather than the world as a whole).

FERC’s explanation for this failing misstates the law by asserting “potential cumulative impacts of Marcellus Shale drilling activities are not sufficiently casually [sic] related to the Project to warrant the comprehensive consideration of

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<sup>63</sup> *See* KURT GOTTSCHALK ET AL., CHESAPEAKE BAY PROGRAM SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE, EXPLORING THE ENVIRONMENTAL EFFECTS OF SHALE GAS DEVELOPMENT IN THE CHESAPEAKE BAY WATERSHED 8 (2013), [http://www.chesapeake.org/pubs/297\\_Gottschalk2013.pdf](http://www.chesapeake.org/pubs/297_Gottschalk2013.pdf); DANIEL J. SOEDER & WILLIAM M. KAPPEL, U.S. GEOLOGICAL SURVEY, WATER RESOURCES AND NATURAL GAS PRODUCTION FROM THE MARCELLUS SHALE 3-5 (2009), [http://www.sportsmenalliance.org/PDFs/USGS\\_FS2009-3032.pdf](http://www.sportsmenalliance.org/PDFs/USGS_FS2009-3032.pdf); P.J. Drohan et al., *Early Trends in Landcover Change and Forest Fragmentation Due to Shale-Gas Development in Pennsylvania: A Potential Outcome for the Northcentral Appalachians*, 49 ENVTL. MGMT. 1061, 1061, 1063 (2012), <http://link.springer.com/article/10.1007%2Fs00267-012-9841-6#/page-1>.

those impacts in this EA.”<sup>64</sup> First, unlike the indirect effects test, the cumulative impacts regulation has no causation element. *See* 40 C.F.R. § 1508.7. Further, as explained above, the relationship between the Project and the Marcellus Shale is well-established. FERC has not yet examined the cumulative impacts of the Project on water resources. Therefore, it is not yet “in a position to determine whether the additional [impacts] would cause a significant impact on the [area] and, thus, to require preparation of an EIS.” *Grand Canyon Trust*, 290 F.3d at 346. The EA violates NEPA based on its failure to take a “hard look” at the Project’s impacts and to make a “convincing case” for a FONSI.

### **III. FERC Impermissibly Failed to Consider the Intensity of Project Impacts in the Unique Context of the Chesapeake Bay and Its Watershed.**

FERC’s conclusion that Project impacts are not “significant” under NEPA impermissibly ignores the physical and regulatory contexts in which they will occur. *See* 40 C.F.R. § 1508.27(b)(3) (significance determinations must consider impacts’ intensity given the “unique characteristics of the geographic area”); *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 731 (9th Cir. 2001). The physical context here includes the Chesapeake Bay and its watershed. Congress has declared the Bay ecologically critical, Water Quality Act of 1987, 33 U.S.C. § 1267 (2012), and the President has proclaimed it “a national treasure constituting

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<sup>64</sup> EA, *supra* note 51, at 163.

the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world,” Exec. Order No. 13,508, 74 Fed. Reg. 23,099 (May 12, 2009). Yet the Bay’s ecological health is tenuous, and, despite a decades-long struggle to restore the Bay,<sup>65</sup> the metrics used to estimate its overall health reflect little progress.<sup>66</sup> Notably, some of the Bay’s ongoing degradation can be traced to regional natural gas exploration and production in the Marcellus shale.<sup>67</sup> Natural gas drilling activities in the Chesapeake watershed disturb previously intact landscapes and cause erosion and sedimentation in headwater streams. In doing so, these activities contribute to the leading factors in the Bay’s ill health, including flows of sediment and algae-supporting nutrients that travel in runoff originating as far away as New York, Pennsylvania, and West Virginia.<sup>68</sup>

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<sup>65</sup> See UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE, *Overall Bay Trends Graph*, INTEGRATION AND APPLICATION NETWORK (2013), [http://ian.umces.edu/ecocheck/report-cards/chesapeake-bay/2013/overview/#\\_Trends](http://ian.umces.edu/ecocheck/report-cards/chesapeake-bay/2013/overview/#_Trends); THE FEDERAL LEADERSHIP COMMITTEE FOR THE CHESAPEAKE BAY, STRATEGY FOR PROTECTING AND RESTORING THE CHESAPEAKE BAY WATERSHED: 2014-15 MILESTONES PROGRESS REPORT 6 (2014), [http://www.chesapeakebay.net/channel\\_files/23028/2014\\_eo\\_progress\\_report\\_final\\_march\\_26\\_2015.pdf](http://www.chesapeakebay.net/channel_files/23028/2014_eo_progress_report_final_march_26_2015.pdf) (“federal agencies utilized . . . \$460 million” for restoration and protection in 2014).

<sup>66</sup> See UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE, *supra* note 65.

<sup>67</sup> GOTTSCHALK, *supra* note 63, at 8 (“Potential environmental impacts are associated with water use, treatment and disposal, . . . land use change (pad development, infrastructure for roads and distribution pipelines).”); see *Natural Gas*, CHESAPEAKE BAY FOUNDATION, <http://www.cbf.org/about-the-bay/issues/natural-gas-drilling> (last visited Nov. 11, 2019).

<sup>68</sup> GOTTSCHALK, *supra* note 63, at 8; SOEDER, *supra* note 63, at 4.

FERC's EA gestures weakly toward the Project's short-term direct impacts on the Bay, but does not properly examine their intensity. For example, the EA anticipates that shipping traffic will increase<sup>69</sup> and notes that “[d]uring construction, clearing and grading of vegetation could increase erosion along stream banks, . . . Increased sediment loading and turbidity levels, reduced dissolved oxygen concentrations, stream warming, and introduction of chemical discharges from inadvertent spills . . . may also affect streams.”<sup>70</sup> Yet FERC does not examine these acknowledged contributions to longstanding problems in the Total Maximum Daily Load framework used by EPA and the Bay states to quantify and ameliorate them.<sup>71</sup> The remedy here is to recognize Project impacts as “significant” and evaluate them fully. *See Friends of Back Bay v. U.S. Army Corps of Eng’rs*, 681 F.3d 581, 589–90 (4th Cir. 2012) (where licensing agency’s EA expressly recognized the unique character of the project’s context, yet failed to make analytical connections between the intensity of project impacts and that context, the US Army Corps of Engineers did not comply with its obligations under NEPA); *see also Babbitt*, 241 F.3d at 732–33 (9th Cir. 2001). In this and other ways, FERC failed in NEPA obligation to consider the unique impacts of the Project on the mid-Atlantic region and the Chesapeake Bay.

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<sup>69</sup> EA, *supra* note 51, at 27.

<sup>70</sup> *Id.* at 51.

<sup>71</sup> EPA Comments, *supra* note 52, at 2-3.

## CONCLUSION

For the foregoing reasons, *amici* urge the Court to find that FERC's review of the Project's environmental impacts suffers from a fatal failure to take account of the Project's reasonably foreseeable and significant indirect impacts. The EA, therefore, should be vacated and remanded to FERC to be replaced with either a more complete EA or a full EIS.

DATED: November 20, 2015

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**CERTIFICATE OF COMPLIANCE WITH FEDERAL RULE OF  
APPELLATE PROCEDURE 32(a)**

This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B) because this brief contains 6,998 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii).

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/s/ *Daniel H. Lutz*  
Daniel H. Lutz

**CERTIFICATE OF SERVICE**

Pursuant to D.C. Circuit Local Rule 25(c), I hereby certify that on this 20th day of November, 2015, I electronically filed the foregoing **BRIEF OF AMICI CURIAE, WATERKEEPERS CHESAPEAKE, POTOMAC RIVERKEEPER, INC., LOWER SUSQUEHANNA RIVERKEEPER, CLEAN AIR COUNCIL, ALLEGHENY DEFENSE PROJECT, WILD VIRGINIA, CALVERT CITIZENS FOR A HEALTHY COMMUNITY, AND MYERSVILLE CITIZENS FOR A RURAL COMMUNITY, INC. IN SUPPORT OF PETITIONERS EARTHREPORTS, INC. ET AL** with the Court by using the CM/ECF system. All parties to the case have been served through the CM/ECF system.

/s/ *Daniel H. Lutz*  
Daniel H. Lutz